



THE ECONOMIC IMPACT OF IDENTITY EXCLUSION ON ORGANISATIONS: A QUALITATIVE STUDY



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FOREWORD



An important read for those of us who work in the identity space – as well as policymakers and businesses who are looking for ways to bring more people into the economy and create better opportunities for everyone.

For years now, the predominant focus of discussions around “who lacks foundational IDs” has focused largely on people in the developing world. The World Bank has done a tremendous job elevating the importance of this issue – noting that roughly 850 million people across the globe do not have an official identity, and launching an initiative to shrink that number.

But as I often point out to colleagues in global fora that focus on this issue, we have many of the same challenges in the United States. Last year, the Brennan Center estimated that 9.1% of adult Americans lack ready access to documentary proof of citizenship, with nearly 4 million people lacking any identity documents at all.

Someone who is not born in a hospital might lack a proper birth certificate. Someone who flees a domestic violence situation may leave with nothing but the clothes on their back – and leave their IDs behind. Someone who is evicted might see their documents left in a cardboard box by the side of the road that washes away in the rain. Some people had an ID but lost it through some other means, and they are not able to easily replace it – in many cases because they are too poor to afford the fee for reissuing the ID.

This is not an issue unique to the U.S. among developed countries; Women in Identity has previously highlighted how millions of residents of the United Kingdom are facing similar challenges.

Whether the challenges are in sub-Saharan Africa or North America, a common theme is that it can be very hard for those without an identity to get ahead. And with this, businesses who would like to offer a product or service often find themselves unable to do so for those without an ID – meaning that the lack of ID holds those firms back from growing their business, or in some cases, lending a helping hand to someone who is in need.

Many of the American banks I work with would love to offer a basic account to someone who is poor – but in many cases it is illegal for them to do so if they cannot verify their identity. An aid group that I work with here in Washington, D.C. deals with thousands of people each year who are not able to experience the dignity of work – or qualify for basic benefits like housing or medical care – because they do not have an ID and cannot easily get one. And as we look to start bringing identity systems into the digital world, the potential for exacerbating these inequities is significant. Because for all of their promise, most digital identity initiatives are premised on the idea that someone already has ready access to some physical credential issued by an authoritative source.

For all of these reasons, I am thrilled to see Women in Identity release this new report on The Economic Impact of Identity Exclusion on Organisations. The report does an excellent job laying out not only the costs and penalties that individuals face when they can't easily get an ID – but also the ways that those problems can inhibit economic growth in a country by effectively excluding people from parts of the economy or making it harder for them to get ahead. And it outlines some concrete proposals to help countries ensure that their identity systems can work better for everyone. It's an important read for those of us who work in the identity space – as well as policymakers and businesses who are looking for ways to bring more people into the economy and create better opportunities for everyone.

Jeremy Grant

Jeremy Grant

Coordinator

Better Identity Coalition

EXECUTIVE SUMMARY

This report presents the findings and recommendations from a detailed qualitative study of the economic impact of identity exclusion on organisations.



The report was commissioned by Women in Identity as part of the development of their *ID Code of Conduct*. It builds on earlier empirical work that identified the human impact of identity exclusion and complements this with insights from participants from the identity industry around the world.

A total of forty-five typically hour-long interviews were conducted with participants from around the world and representing various key stages of the identity supply chain. All the interviews took place online between August 2024 and January 2025. The interviews were transcribed and analysed for key themes and insights including the need for a business case for addressing identity inclusion, consideration of various excluded groups as well as narratives for inclusion by both the public and private sector. Consideration was given to the challenges associated with improving the identity proofing and civil registration systems.

Participants also discussed issues associated with addressing identity exclusion at the authentication stage of identity journeys. Technological developments including artificial intelligence, digital identity wallets, mobile driving licences and digital public infrastructures raised additional potential business costs associated with identity exclusion.

Many examples of work that is typically hidden from traditional cost benefit analyses were presented alongside more innovative approaches to addressing identity exclusion. Finally, a set of additional issues including the relationship between states and municipalities and novel reputational risks were raised. These are complemented with various resources that organisations draw on to help with this task.

While identity exclusion is often seen as a challenging business cost for supporting the identity excluded, this report proposes to reframe the issue from one of dealing with individuals who are on an unhappy path in an identity transaction to the positive steps that can be taken to widen the happy path instead.

Widening the happy path is not without its challenges, not least because many organisations lack the decision space to think differently about identity inclusion and even when they do, often lack detailed examples of what their peer (and competitor) organisations are achieving in this space. This report provides detailed examples of the range of activities that are typically undertaken to deal with the identity excluded and which can be reappropriated to make identity more inclusive, ideally when developing new services but also when refreshing existing identity services and processes.

The investment and growth decisions that organisations undertake to make widening the happy path a strategic objective can help them focus on the economic value of being more identity inclusive.

To help them on this journey, the report makes ten key recommendations for the further development of the ID Code of Conduct:

- Resolve to make addressing identity exclusion an explicit objective of the organisation
- Reform identity proofing standards
- Review alternative support opportunities that can assist with identity exclusion
- Restructure birth and death registration processes to be more inclusive
- Rectify issues that arise because of the history of the identity organisation
- Respond to the opportunities that new technological developments offer
- Revise workflows to address the costs of change
- Realign with evolving consumer attitudes to identity exclusion
- Recognise all the hidden work associated with making identity inclusive
- Reuse insights from existing approaches to inclusion from other sectors

01

INTRODUCING THE ID CODE OF CONDUCT



Women in Identity is a global non-profit registered in the US and UK. **Its vision is that digital identity solutions built for everyone are built by everyone.** It seeks to drive the digital identity industry to build solutions with diverse teams to promote universal access which enables civic, social and economic empowerment around the world.

A significant element of the Women in Identity's mission is the development of an *ID Code of Conduct*. This will be a comprehensive set of guidelines for product designers and identity teams that will ensure that identity products and services are designed with a focus on equality, diversity and inclusivity throughout the entire design process (Women in Identity 2025).

When designed effectively and inclusively it has been estimated that digital identity systems can unlock economic value equivalent to 4% of GDP in the United States by 2030, with an economic value equivalent to 6% of GDP unlocked in emerging economies (McKinsey Global Institute 2019, p. vi). Similar claims about the role of digital identities were made at a UN Economic Commission for Africa (UNECA) event in 2024, where implementing digital identity could unlock value equivalent to between 3% and 7% of GDP (United Nations Economic Commission for Africa 2024).

However, the McKinsey report also states that the value estimates "assume the digital ID program enables multiple high value use cases, attains high levels of usage, is established with individual consent, and protects user privacy and ensures control over personal data" (McKinsey Global Institute 2019, p. vii). It is unclear what benefits will accrue to digital identity systems if not all assumptions are met, particularly, if digital identity coverage is incomplete and there are significant numbers of individuals who find themselves unable to engage with the high value use cases because they find themselves identity excluded. Similarly, speakers at the UNECA event noted that issues related to privacy and inclusivity remain to be tackled in many countries.

Against this background of the benefits of digital identity systems, but also the need for identity systems to be as inclusive as possible, the *ID Code of Conduct* research stream began with a literature review of digital identity internationally identifying emerging trends, debates and controversies (Hayes de Kalaf and Fernandes 2023).

The next stage was a study of the human impact of identity exclusion, particularly in relation to financial services (Bailur and Schoemaker 2022). This study drew on the lived experiences of ten vulnerable users and five experts in both the UK and Ghana. The findings from this study highlighted the practical challenges faced by the identity excluded and emphasised the importance of framing the economic value, growth and investment opportunities associated with implementing the code of conduct, particularly by making identity systems more inclusive.

The next phases for the development of the *ID Code of Conduct* include a macro-economic study of the impact of identity exclusion and the development of a set of principles based on consultation, design and development workshops and one-to-one interviews with experts (Women in Identity 2025).

1.1

Scoping the study: The economic value, growth and investment opportunities of addressing identity exclusion

This study presents the next phase in the development of the code of conduct. Instead of focussing on the human impact of identity exclusion, **its focus is on the experiences of various organisations in the identity supply chain and how they deal with the identity excluded who are not on the “happy path” for identity related transactions and what this means for the economic value, growth and investment opportunities of identity organisations.**

The study uses the term identity supply chain to describe the diverse organisations involved in the process of issuing and using identities. These organisations include those entities doing the underlying civil registration of births, marriages and deaths, those organisations that issue identity documents (i.e. identity providers), those organisations that support identity providers, typically by managing data about individuals to enable the provision of identity documents (for example, credit reference agencies and data brokers) and those relying parties that depend on the identity claims assured by elements earlier in the identity supply chain.

Given the diversity of study participants, the study contrasts the organisational processes for individuals on the happy path who have the necessary documents and evidence for identity related transactions with those who are not on the happy path for these transactions. **Individuals on the happy path may have an official photo ID and are able to provide biometrics that match that data. They may also have a suitable biographical footprint in trusted data sources to ensure that their identity can be verified to a required level of assurance.**

Individuals might not be on the happy path because they don't have suitable ID, can't get suitable ID (e.g. problems with ID proofing), can't use their ID (e.g. digital divide) or need support for using the ID they have, etc. From an organisational perspective, these issues may arise in call centres, in person or via online support agents. Unhappy path identity transactions may also fail because the individual cannot easily provide suitable biometrics or the biometric comparison algorithm is biased. The individuals may have a very limited biographical footprint in traditional data sources used for identity proofing.

Similarly, the diverse roles of participants and their experiences means that there is no single identity process that all study participants play a role in and equally limited consistent language to describe the process. Instead, some contexts draw heavily on civil registration and vital statistics (CRVS) systems as the basis for issuing national identity documents whilst others emphasise the role of identity verification / proofing processes that draw on a wide range of data sources.

In order to provide a consistent language for the various identity processes covered by participants, the report adopts the definitions provided by Nyst et al. (2016) who identify three stages in a typical identity process: identification, authentication and authorisation. Where participants used non-standard language to describe these processes, the paraphrasing and editing activities described below standardised around these terms.

Identification “is the process of establishing information about an individual (or organisation). It may involve examining ‘breeder documents’ such as passports and birth certificates, consulting alternative sources of data to corroborate the identity being claimed and potentially collecting biometric data from the individual” (Nyst et al. 2016, p. 27).

Authentication “is the process of asserting an identity previously established during identification. Typically this involves presenting or using an authentication credential (that was bound to the identity during identification) to demonstrate that the individual (or organisation) owns and is in control of the digital identity being asserted” (Nyst et al. 2016, p. 27).

The third stage, authorisation, relates to the process of determining what actions may be performed or services accessed on the basis of the asserted and authenticated identity. In the context of this report on identity exclusion, the authorisation stage was not particularly discussed by participants.

02

IDENTITY EXCLUSION



This study and the *ID Code of Conduct* more generally is concerned with identity exclusion and what organisations can and should do to make their identity services more inclusive. This section reviews the scale of the identity exclusion problem and assesses various reports that include consideration of identity exclusion as part of their recommendations. This material informs the design of the empirical study and shapes the analysis that develops insights that will feed into the next stages of the development of the code of conduct.

2.1

The scale of the problem

According to the World Bank approximately 850 million people lack official ID¹ and 3.3 billion people do not have access to digital ID for official transactions online (World Bank 2025). Of the 850 million, around half are children and the vast majority live in lower income countries in Africa and South Asia. The ID4D dataset (World Bank 2021a) further indicates that many more people do not have digitally verifiable identification. This includes at least 1.1 billion people who do not have a digital record of their identity, at least 1.25 billion people who do not have a digitally verifiable identity and at least 3.3 billion people who do not have access to a government-recognized digital identity to securely transact online.

Identity exclusion is also an issue in higher income countries. For example, a recent report estimates that 5.9 million adults in the UK are ID challenged, as they cannot verify their identity through traditional means because they lack the documents typically used to verify an identity (OIXUK 2021).

In the US, the Federal Deposit Insurance Corporation found that, in 2023, 4.2 percent of U.S. households, representing about 5.6 million households, were unbanked. A key concern for many of the unbanked was whether they had the identification documents needed to be able to open an account (FDIC 2024).



¹ Earlier figures from the World Bank in 2018 had estimated those without official ID at just under one billion people. The lower revised figure draws on new data collected including survey data on ID ownership by adults alongside new administrative data. The methodology for analysis has also been updated (Clark et al. 2022).

2.2

Addressing identity exclusion

In recent years, there have been a range of initiatives to support the development of identity systems, with a particular focus on their implementation as digital systems (Whitley and Schoemaker 2022). These initiatives have been a response to the growing recognition of the importance of identity for socioeconomic development as well as identity becoming a key component of the United Nations Sustainable Development Goals (SDGs). Identity is seen to have a particular developmental role under Goal 16 in promoting “peaceful and inclusive societies for sustainable development,” providing “access to justice for all” as well as helping “build effective, accountable and inclusive institutions at all levels” (United Nations 2015). Most of these initiatives include some consideration of the importance of addressing identity exclusion.

Perhaps the most significant of these is the “Principles on identification for sustainable development” endorsed by a large number of organisations including Women in Identity and convened by the World Bank (World Bank 2021b). The first two principles relate to inclusion and seek to ensure universal access for individuals, free from discrimination and the removal of barriers to access and use (World Bank 2021b, p. 12).

The first principle builds on Sustainable Development Goal (SDG) 16.9 that aims, by 2030, to provide legal identity for all, including birth registration and the principle emphasises that “all identification systems should be free from discrimination in policy, in practice, and by design” (World Bank 2021b, p. 12). The second principle is about removing barriers to access highlights issues of costs, information asymmetries and technology gaps and advocates “inclusion by design”. This involves prioritising the needs and concerns of marginalized and vulnerable groups who are most at risk of being excluded and who are the most in need of the protections and benefits identification can provide (World Bank 2021b, p. 13).

Similarly, a report from the World Economic Forum on the role of digital identity as part of a new chapter in the social contract (WEF 2018) proposes inclusivity as one of its five key elements for the design of digital identity systems. For the report’s authors, this means that everyone within the target population is able to establish and use digital identities that can be authenticated without risk of discrimination or exclusion. It also advocates a form of “design for all” (WEF 2018, p. 20).

The McKinsey report, mentioned above, also highlights the risk of excluding individuals from critical services and the ability to authenticate their identity if the systems are not designed properly (McKinsey Global Institute 2019, p. 82). Good design, according to this report, includes making sure initial registration is “as easy as possible” (McKinsey Global Institute 2019, p. 93).

While such statements helpfully highlight the importance of identity inclusion for successful identity schemes (and the reasons for doing so are often framed in terms of the human costs of identity exclusion, presenting similar evidence to the earlier Women in Identity report (Bailur and Schoemaker 2022)) they provide limited guidance to identity organisations as to how to go about making their identity services more inclusive nor do they provide much evidence about the relationship between potential investments in measures to reduce identity exclusion and improvements to the performance of the organisation.

As a result, despite the recognition of the significance of identity exclusion and a general desire to do (and be seen to do) “the right thing”, there is less guidance as to how identity organisations best respond to identity exclusion to improve their economic position and what investments and growth opportunities addressing identity exclusion can provide. Many of these issues are not explicitly considered by organisational decision makers, including those involved in procurement (Rogers 2024). This is in marked contrast to many other elements of these guiding principles, where explicit consideration of costs and benefits as well as detailed guidance can be found.

For example, the Principles on Identification also recommend using open standards in order to address the known (and measurable) consequences of vendor and technology lock-in and the World Bank has issued a detailed Catalog of Technical Standards for Digital Identity Systems (Mittal 2018). That report argues that standards are important because they have a “positive impact in market penetration and international trade” whilst a lack of standards can result in problems with interoperability, interconnectivity and vendor lock-in (Mittal 2018, p. 7). The guidance in the Catalog can be used by identity organisations to avoid the costs of vendor and technology lock-in.

Similarly, the World Economic Forum report highlights the financial benefits of interoperable technical standards that allow potential ecosystem partners to mutualize costs and benefits (WEF 2018, p. 30).

When thinking about the economic value of addressing identity exclusion, the costs to business, whether directly incurred or opportunity costs, become important considerations. Indeed, even how organisations frame identity exclusion can prove significant. For some organisations, and some forms of costs, activities to address identity exclusion are actively measured and monitored. They may also be explicit elements considered in the growth and investment plans of the organisation.

In other cases, however, activities associated dealing with identity exclusion can be considered as forms of hidden work because they don't relate to the core business of the identity organisation and are often invisible to the leadership of the organisation. Nevertheless this is work that must be done, it gets the service "back on track" and is therefore also work that 'costs' the organisation. Consideration of this hidden work has an important role to play in the growth and investment opportunities for identity organisations.

For nearly forty years, scholars have been developing the concept of hidden or "invisible work". This concept was initially proposed by feminist scholars to account for unrecognized, undervalued and often underpaid work and the lip service that is paid to the importance of this work outside the market economy (Daniels 1987; Nardi and Engeström 1999). Historically, these studies have questioned key assumptions as to what even counts as "work", using the term hidden or invisible work to broaden the scope of work to include household activities as well as care taking and emotional work supporting interpersonal relationships (Justesen and Plesner 2024, p. 7).

In this account, some work is invisible because it is unnoticed and other work is invisible because it is undervalued and this dual nature has important implications for how invisible work is studied and valued.

In recent years, this acknowledgement of unnoticed and undervalued work has extended to digital systems, for example, in the context of data cleaning (Plantin 2019), data science (Parmiggiani et al. 2022) and AI (Newlands 2021).

As articulated by Justesen and Plesner (2024) in the digital era "invisible work is often background or infrastructure work, which supports the activities defined as key and core to the organisation" (2024, p. 8). This is the work that is often needed to support the seamless connectivity and frictionless automation of modern digital work.



Human Impact of ID Exclusion report (2022).
Va-Bene: Photo Credit Edem Robby Abbeyquaye.

Justesen and Plesner (2024) identify three important types of invisible digi-work: connecting, compensating and cleaning (Justesen and Plesner 2024, p. 10). In the context of digital identities, connecting work covers the concrete activities involved in the maintenance and repair of digital identity credentials. This includes activities such as password resets, credential reissues and account renewals. Compensating work arises when the assumption that introducing digital identities will automatically lead to operational efficiencies overlooks the "(often unexpected) new tasks that are entangled with automated digital solutions and are essential to making solutions work in the first place" (Justesen and Plesner 2024, p. 12). This compensating work often involves activities needed to compensate for the errors, limitations and other shortcomings related to digital identities, particularly during onboarding and attribute exchange activities. Finally, cleaning work involves modifying, purifying and removing e-waste, for example, when dealing with multiple, poorly described and articulated data sources for identity systems.

Both the measured and monitored and hidden work associated with addressing identity exclusion link to four activities (and questions) that identity organisations wanting to address identity exclusion should consider as they develop their plans for the future:

Deciding

"Might we have missed business opportunities because of identity exclusion?"

How do organisations determine the economic value of these missed opportunities?

Monitoring

"How significant is our identity exclusion problem?"

What processes need to be associated with monitoring the economic impact of the exclusion problem?

Recovering

"How do we recover from the problem by making our service more inclusive?"

What additional steps are needed to recover from the current situation?

Responding

"How do we limit future problems?"

Looking forward, what needs to be done to minimise the likelihood of future problems arising from identity exclusion?

Addressing identity exclusion can therefore be seen as an opportunity to enhance the economic value of the identity organisation, by providing additional services, including more individuals as potential customers, not excluding key segments of society, etc. Alongside the opportunities that addressing identity exclusion can enable, organisations also need to consider the costs of these actions, both in terms of measured and monitored costs and more hidden costs. They also need guidance on how these actions can fit into their investment and growth plans.

2.3

A note on terminology

In this report the term *identity organisation* is used to refer to any organisation that is part of the *identity supply chain*. This might be an *identity provider*, a *data provider* or a *relying party*. In this report most of the identity organisations referred to have some engagement with financial services and deal with issues of *identity exclusion* as they apply to *individuals*. The term *citizen* is used to refer to individuals in relation to them being citizens of a nation state and the term *customers* is used particularly in relation to customer experiences and user interface design.

Identity excluded refers to individuals who are unable to complete *identity transactions*, typically *identification* or *authentication* by following the *happy path*. Instead, they find themselves on the *unhappy path* and may struggle to complete the transaction and suffer further problems of exclusion as a consequence.

03

RESEARCH AIM AND QUESTIONS



The aim of the study is to understand how identity organisations currently address issues of identity exclusion and what this means for addressing identity exclusion more generally.

Some organisations may see the identity excluded as "the last 20%"² of their customer base who may, eventually, be supported. Other organisations may frame addressing identity exclusion as an opportunity for growth and investment that will improve the economic position of the organisation. The findings from the study will inform the further development of the ID Code of Conduct. The study therefore seeks to answer the following research questions:

Question 1

What are the different ways in which identity organisations currently frame identity exclusion?

Question 2

What kinds of activities are involved in addressing identity exclusion?

Question 3

In what ways are technological developments and alternative approaches transforming the nature of the challenge of identity exclusion?

Question 4

What additional insights on how to address identity exclusion can be obtained from the study participants?

The research took a qualitative, thematic approach. The research methodology, presented in the Appendix, included the London School of Economics' ethics approval process. It describes how study participants were selected as well as how the interviews were conducted alongside profile information about participants.

The full version of the report that includes a full description of the research methodology as well as the detailed findings from study participants that are summarised below is available on the Women in Identity website: womeninidentity.org.

² The idea of an 80/20 split between the 80% of individuals who are on the happy path for identity transactions and the 20% on the unhappy path, was commonly used by participants as a rhetorical device to talk about the identity excluded. It is probably based on the Pareto Principle. In practice, the split, where known, is likely to vary significantly from country to country and is unlikely to actually be 80/20.

04

QUESTION 1: WHAT ARE THE DIFFERENT WAYS IN WHICH IDENTITY ORGANISATIONS CURRENTLY FRAME IDENTITY EXCLUSION?



The first research question asked participants about the different ways in which identity organisations currently frame identity exclusion. The contributions from the study participants highlight a number of important insights on this question.

Some participants noted that identity inclusion isn't something that their organisation really engages with as they have no KPIs for measuring identity exclusion in their processes. In some cases, the absence of KPIs is a consequence of the lack of (local) language concepts that explicitly relate to identity exclusion.

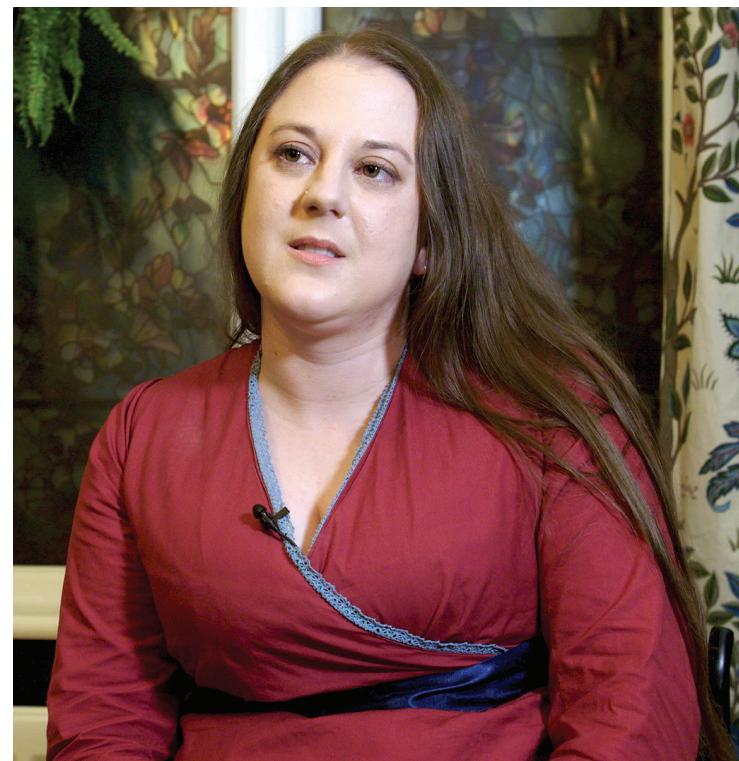
Whilst identity exclusion can be framed as an unavoidable challenge, some organisations prefer to see it as a positive opportunity that demonstrates their respect and values towards the individuals they engage with, for example, by placing their needs at the centre of organisational processes rather than the other way round.

Many participants highlighted that identity exclusion was a complex, multi-faceted problem that was unlikely to have simple solutions as there are a variety of cultural and socio-economic factors that can affect identity exclusion. As such the problem space is more than just a technical, business or legal issue.

There are many different groups that may find themselves on the unhappy path for identity transactions, as well as intersectional combinations of these groups. Participants noted examples of exclusion arising because of gender, age, (dis)ability, literacy and race / ethnicity / religion. Additionally, categories of individuals such as those with thin files³, foreign nationals, refugees, stateless and internally displaced people or even those who just drop out of identity processes may need to be addressed by identity organisations.

Some identity organisations are obliged to attempt to avoid any forms of identity exclusion (typically governments and the organisations that support them) whereas others have more discretion around how much emphasis they place on being inclusive from a commercial perspective.

Finally, the nuanced framing of identity exclusion in relation to fraud raises the consideration that inclusive identity processes help reduce the risk of fraud as well as costs associated with processing fraudulent identities, particularly if fraud reduction initiatives don't engage with the specific challenges of excluded groups.



Human Impact of ID Exclusion report (2022).
Fuchsia: Photo Credit Habitus Insight.

³ The term thin file has its origins in credit scoring where it refers to the credit report of an individual with little or no credit history, making it difficult to assess their creditworthiness accurately. By analogy a thin file for identification purposes does not contain sufficient authoritative evidence to assess their identity claims accurately.

4.1**Implications for the Code of Conduct**

For identity organisations seeking to address identity exclusion an important first step is to acknowledge that many organisational actors don't necessarily have the time or mental space to be able to talk meaningfully about organisational interventions that can help address identity exclusion. The examples and language found in this report can provide an important resource for enabling such conversations.

In this spirit it may be useful to develop Key Performance Indicators around identity exclusion as things that are not measured often are not seen to matter. Depending on the context, this might first involve the development of agreed concepts in the local language that determine, for the organisational context, what is understood by identity exclusion.

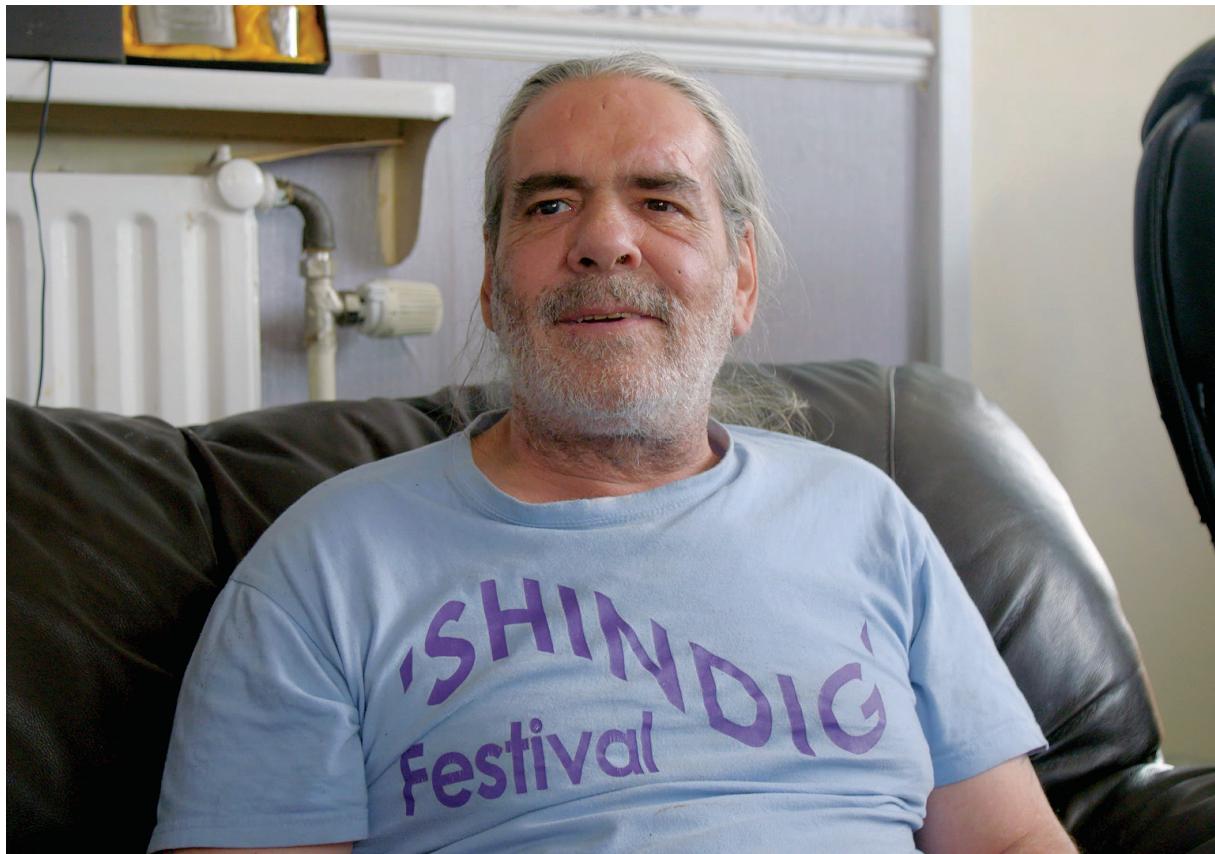
Organisational leadership teams may want to signal their values around identity exclusion as these can be a key driver for changing organisational processes to be more inclusive. These values can include a view on how much discretion organisational actors have in terms of strictly following agreed identity processes or meeting predefined KPIs or allowing workarounds that enable the underlying tasks to be achieved.

Recognising that there will not be easy solutions to issues of identity exclusion for organisations means that they can only be addressed through properly developed plans for investment and growth. Any initiatives need to be properly resourced and supported by the organisation as a whole.

Identity organisations need to determine which categories of excluded groups are particularly significant for their organisational processes as responses may vary according to the characteristics of the excluded groups. It is also important that identity organisations consider the intersectional risks associated with these groups.

Whilst managing fraud is an important identity activity, addressing it from an identity inclusive perspective may be likely to prove particularly fruitful for organisations.

Human Impact of ID Exclusion report (2022).
Terry: Photo Credit Habitus Insight.



05

QUESTION 2: WHAT KINDS OF ACTIVITIES ARE INVOLVED IN ADDRESSING IDENTITY EXCLUSION?



The second research question sought to understand the kinds of activities that identity organisations are currently undertaking to address identity exclusion and what this means for the investment and growth plans of organisations.

These activities varied according to whether they were based on identity proofing approaches or national identity schemes based on civil registration records.

Identity proofing approaches are typically based on established standards that specify how different data sources can be combined to provide a particular level of assurance in an identity. These standards have the advantage of enabling more interoperable systems as all identity claims assured to the same level of assurance through the identity proofing process should be considered equivalently. There is, however, always the concern that these standards are based on a path dependency from earlier identity proofing approaches and may be less adaptable to alternative data sources including social media data that better reflects modern lifestyles.

Another challenge around identity standards relates to whether the standard is seen as a binary outcome (an individual has or hasn't achieved a particular level of assurance around their identity claims) as this can have significant implications for inclusion.

Including new data sources needs to "move the needle" on the coverage that identity proofing needs to achieve but this requires a good understanding of the extent, and limitations, of existing data sources as well as a sense of what excluded groups should be covered with the new data sources. This understanding can often be problematic for larger organisations whose identity infrastructure is the result of mergers and acquisitions.

Many, especially larger, identity organisations have specialist teams who both seek out and evaluate potential new data sources. Concerns about these new data sources introducing new biases into the identity proofing process need to be addressed.

Other biases may arise in terms of the age of the dataset and what data cleansing, if any, has been undertaken. There may also be data protection issues associated with holding historical data for some purposes.

The cost of obtaining new data sources plays an important role in the investment and growth plans of organisations and it is important to understand whether the cost will be per identity check against the new source or per successful check.

The procurement of new data sources often involves interactions with many parts of the organisation including finance, legal and systems and may begin with a proof-of-concept before moving to business-as-usual.

The cost of change, for example, via new organisational processes is all too often not fully appreciated by organisations trying to be more inclusive.

One solution to many of these challenges is for identity organisations to delegate these tasks to specialist identity service orchestrators. This way, the orchestrator becomes responsible for identifying and integrating new data sources with the identity organisation simply receiving the outcomes of the orchestration service.

National Identity Systems based on civil registration processes raise a different set of challenges. For those who are registered with the system, identity checking against these registers can be relatively straightforward with issues only arising for those individuals who are not registered, for whatever reason.

Authentication and device checking are important for spotting and addressing potentially fraudulent transactions but can also inadvertently exclude some individuals from completing legitimate transactions successfully.

5.1

Implications for the Code of Conduct

From an identity proofing perspective, an identity organisation that doesn't draw on existing standards risks attempting to reinvent the wheel whilst potentially introducing new vulnerabilities that they may not be aware of whilst also risking perpetuating forms of identity exclusion that the best standards seek to minimise.

Of particular interest here is the need to balance the advantages of a single identity outcome (e.g. an identity with a high level of assurance) with the more nuanced (but more complex) consideration of more detailed identity scores.

The ability to effectively evaluate both the coverage of existing data sources and the potential for new data sources to enhance identity inclusion is an important capability for identity organisations to develop. Whilst it ties with existing legal commitments under data protection laws to know where all data about individuals is held in internal systems, in practice, this can become a challenge as technical architectures evolve over time.

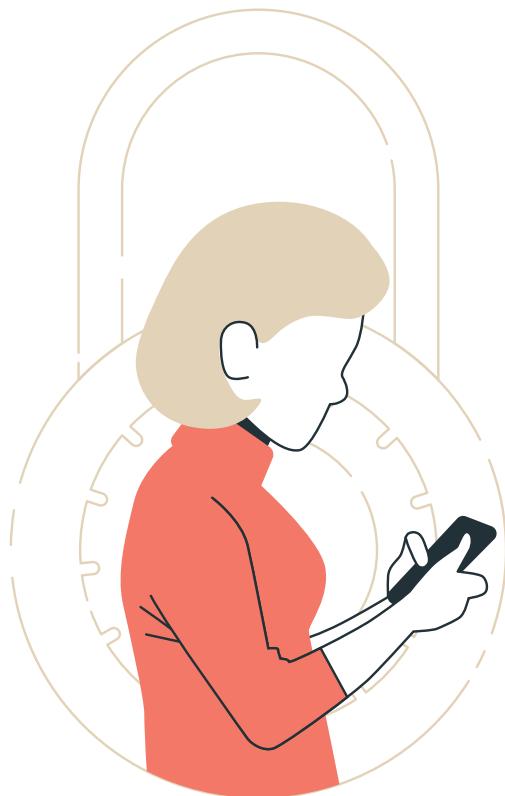


Image: storyset / freepik.com

Depending on organisational resources, it may be appropriate to develop this capability internally. Alternatively, there will be a growing market of analysts and consultants who can provide specialist services to assist with this task.

This capability may also be required to have analytical skills to identify potential issues of bias in the use of new data sources. This capability will also need to be able to make informed judgements about the retention and use of older datasets, for example, in relation to data protection requirements.

The relationship between the cost and coverage of new data sources can play a significant role in improving the economic value of an organisation, for example when similar coverage can be obtained more cheaply. At the same time, it is important to recognise that incorporating new data sources involves more than just procuring the new data as there may be significant costs of change associated with integrating new data sources into existing organisational processes.

Developing a business case for a new data source that addresses the costs of change as well as legal and technical considerations will typically involve detailed discussions with an organisation's marketing, finance, legal and systems teams before the final decision is taken.

The use of orchestration services is one potential solution for addressing the need to flexibly integrate a range of new data sources and might be particularly appealing to smaller identity organisations. It is no silver bullet, however, as it still requires a good understanding of the identity requirements that the orchestration service will address and an appreciation of what suitable orchestration services exist in the market.

For National Identity Systems based on civil registration processes, it is important to appreciate potential gaps in the coverage of the data (e.g. as a result of the pandemic, of a focus on birth registration, etc. as well as traditionally more excluded groups) as well as the practical challenges associated with addressing such gaps including the practicalities of late registration processes.

Organisations need to take a risk-based approach to balancing the needs for authentication, device checking, etc. to address fraud against inclusion considerations.



06

QUESTION 3: IN WHAT WAYS ARE TECHNOLOGICAL DEVELOPMENTS AND ALTERNATIVE APPROACHES TRANSFORMING THE NATURE OF THE CHALLENGE OF IDENTITY EXCLUSION?

The third research question explored the role of technological developments and alternative approaches in transforming responses to identity exclusion. These included the use of artificial intelligence and data analytics as well as emerging approaches like digital identity wallets and mobile driver licences.



Participants described a broad range of machine learning approaches that they were using to help address issues of identity exclusion including detecting fraudulent attacks and improving biometric capture as well as using language-based models to better understand and map diverse data sources. Other, more traditional analytics approaches to map existing data sets (sometimes combined with organisational data) can provide useful insights into gaps in identity coverage. Such approaches can also be useful for spotting problems with internal processes, for example, if there are sudden spikes in problems with a particular service or lower than expected take up by particular groups.

Other participants emphasised the role of API access to authoritative (typically government held) data sources including national identity registries.

At this time, the EU digital identity wallets and mobile driver's licences are just beginning to emerge and whilst they potentially offer useful next steps for simplifying the user experience, they are also typically facing the same identity exclusion problems as other identity services (e.g. it may be very difficult to issue an identity wallet or mDL to someone who finds themselves identity excluded).

Finally, digital public infrastructures raise important questions about the long-term sustainability of open-source solutions and current funding models have managed to avoid some of the longer-term investment and sustainability questions that they imply.



6.1

Implications for the Code of Conduct

Although artificial intelligence is currently a buzzword for most industry sectors, it is best appreciated in terms of specific techniques and services. Depending on the requirements of the identity organisation machine learning and / or large language-based models can play a significant role in addressing identity exclusion.

The skill sets required to develop effective systems drawing on artificial intelligence (i.e. beyond simple prompt engineering) are currently relatively scarce and are unlikely to be found in-house for all but the largest identity organisations. As a result, any plans to use these techniques will typically require using a specialist third party service. Whilst their expertise in artificial intelligence techniques may be strong, their domain knowledge about identity processes and specifically the challenges of identity exclusion for organisations (for example, as outlined in this report) is likely to be much more limited and so there will need to be careful management of these external experts.

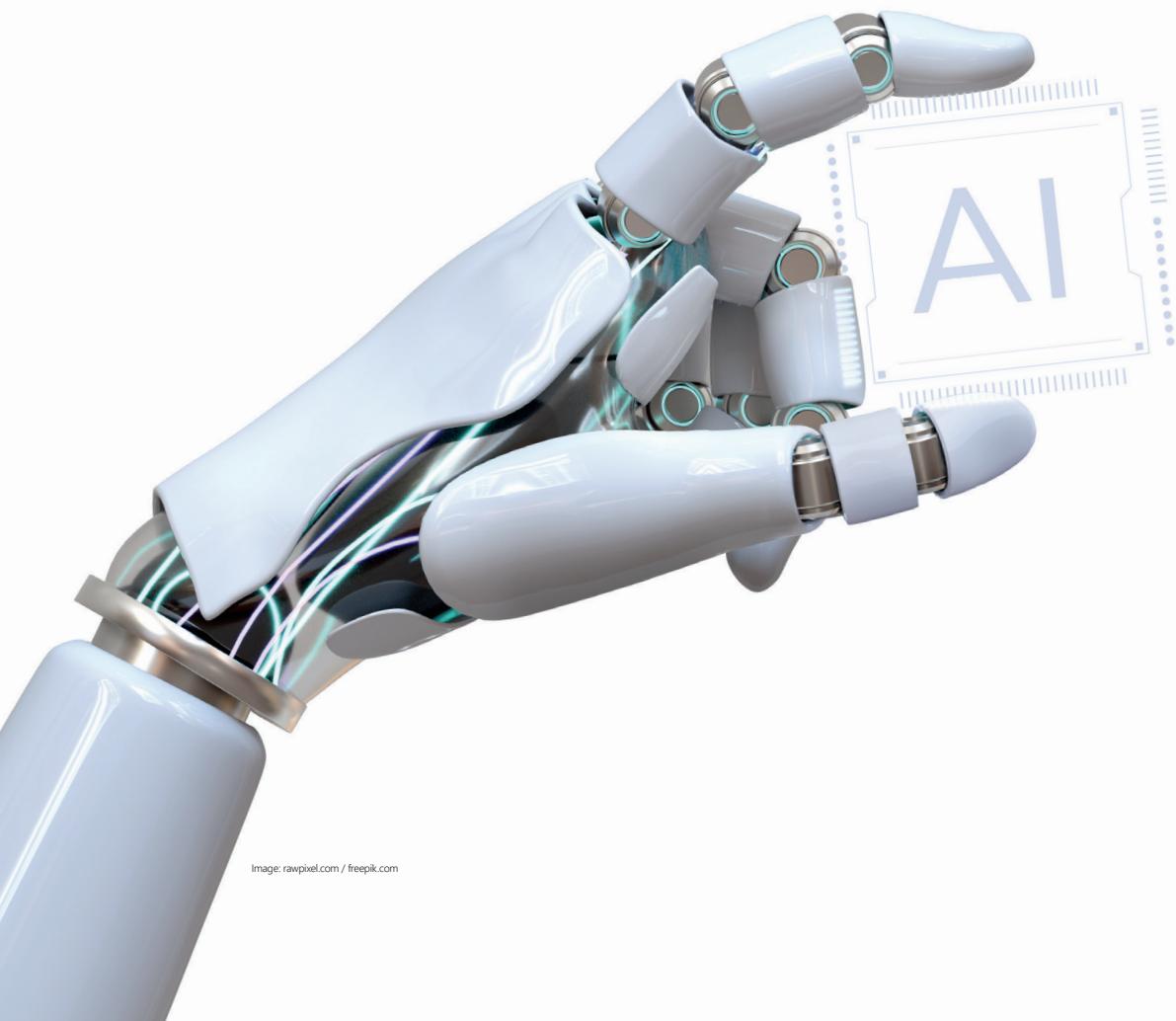
Additionally it is important to monitor the use of any machine learning algorithms against the possibility that they introduce novel forms of bias into the process.

Where artificial intelligence approaches are not viable at this time, the alternative of more traditional data analytics can be considered. These can either be implemented as personal projects or can be more closely integrated into the plans for the organisation.

API access to authoritative sources can be an effective way to offer more inclusive identity services (for those individuals whose details are recorded on those sources). However, there may be access limitations (e.g. to accredited services using authorised devices and connections) which may limit their general applicability.

Many identity organisations will find it helpful to keep a watching brief on digital identity wallets and mobile driver's licences but, at this time, they are not obvious solutions to issues of identity exclusion and even if issued successfully may raise exclusion issues in use.

Digital public infrastructures are another technology to watch that doesn't, at this time, seem to offer a solution to understanding the economic case around identity exclusion.



07

QUESTION 4: WHAT ADDITIONAL INSIGHTS ON HOW TO ADDRESS IDENTITY EXCLUSION CAN BE OBTAINED FROM THE STUDY PARTICIPANTS?



In addition to the topics around identity exclusion that were incorporated into the interview agenda including the importance of hidden work, participants raised a series of additional insights into the nuances associated with addressing identity inclusion.

It is perhaps unsurprising that the often-unseen issue of identity exclusion is less noticeable because of all the hidden work involved in trying to address it. This hidden work takes many forms, from activities associated with increasing awareness and education about the economic value of identity inclusion to the extra work involved in making processes and interfaces intuitive for all categories of users or providing relevant support material. There is hidden work involved in understanding the contextual challenges arising from different forms of identity exclusion and the ways in which they may be resolved.

The study participants also highlighted a diverse range of alternative approaches that currently exist to support excluded groups including charities and for-profit enterprises alongside assisted digital kiosks in convenient locations for individuals to access.

Participants also provided detailed suggestions for how vouching may be implemented moving away from a vague ideal to very practical first steps.

Experiences from the US, Nigeria and Denmark highlighted the various ways in which the relationship between the nation state and municipalities / states can affect both the roll out of identity services and the complexities arising from these relationships.

Participants highlighted the reputational risks that can arise when identity exclusion is addressed poorly.

7.1

Implications for the Code of Conduct

Acknowledging the hidden work in addressing identity exclusion is the first step towards developing more meaningful business plans. These aspects of hidden work should also transform the fundamental bases of any formal cost benefit analyses that are often used to reduce engagement with identity exclusion.

Identity organisations should be open to exploring the full range of assisted digital solutions as well as detailed consideration of how some form of vouching might work for their context.

It is important to consider any implications from the way the nation state and its constituent parts may affect how identity exclusion is addressed in any particular national context.

Reputational risks around identity exclusion are typically not on many organisational risk registers but with the growing role of social media, this needs to be addressed.

A number of excellent resources for addressing identity exclusion exist and can be drawn on by the code of conduct.

08

WIDENING THE HAPPY PATH



The study began with a focus on understanding how organisations dealt with individuals who are on the unhappy path for identity related transactions. Participants therefore described the wide range of additional activities that need to be undertaken to support those individuals who find themselves identity excluded and who need additional support to complete identity transactions in a diverse range of contexts.

These additional activities introduce additional costs for the organisation and the costs are likely to be higher than the costs associated with individuals on the happy path because they are unlikely to be less standardised and will be spread across a smaller proportion of the potential user population.

At the same time, **all of the participants in the study shared a sense of the importance for the identity industry to address issues of identity inclusion. Just under half of the interviews (46%) explicitly raised the business opportunities that can arise when making identity processes more inclusive** and many felt that it was inappropriate for the costs of addressing identity exclusion to be allocated to those individuals who were often facing multiple challenges already.

This suggests that a radically different perspective is needed around identity exclusion. Rather than seeing organisational responses as addressing the unhappy path, it might be more helpful to frame organisational responses in terms of widening the happy path.

Framed this way, the activities that organisations undertake to be more inclusive mean that fewer individuals will find themselves on the unhappy path rather than the unhappy path being something that needs to be supported. **Identity inclusion therefore becomes a strategic objective and opportunity for identity organisations.** Indeed, 46% of participants discussed how their organisations were seeing identity exclusion a strategic issue⁴.

Nevertheless, participants also recognised that most organisational actors lack the luxury of time to think through the issues around identity inclusion for their own context. They may also not be aware of the kinds of activities their peers (and competitors) are undertaking to make their services more inclusive.

The absence of these resources can mean that consideration of identity inclusion and exclusion is often pushed to be something to be addressed later, if at all.

This report seeks to help with this challenge by providing resources, examples and analysis that can help organisations begin the conversations about the economic value of identity inclusion that will inform their investment and growth activities.

The full report provides many examples that can help jumpstart these conversations and the next section provides a brief, illustrative set of tasks that identity organisations could incorporate to be more identity inclusive.

⁴ It is important to emphasise that this is not to say that the remaining 54% of interviews did not think that identity exclusion was or should be a strategic issue for the organisation but rather this is just a product of the way the conversation flowed. As a consequence, issues like business opportunities or strategic objectives may not have arisen in the interview as other issues, such as the use of machine learning or vouching were discussed instead.

8.1**Identity exclusion workflow tasks: An illustrative set**

Participants noted that whilst the tasks associated with individuals on the happy path for identity transactions were relatively well understood, there were also many workflow tasks that arise when dealing with individuals on the unhappy path. These may be tasks that are not currently undertaken or tasks whose costs and benefits may not be fully appreciated. Repositioning these tasks in terms of widening the happy path can enable them to be explicitly considered in organisational investment and growth plans and present them in terms of the economic value they can support.

Whilst repositioning these tasks to widen the happy path may be best undertaken in the early, design phase of a new identity service, in practice, many organisations, particularly larger and more established ones, may find themselves limited by existing investments, processes and technical architectures. In such cases, it is nevertheless possible to follow this approach when implementing new services or experimenting with updates to existing processes.

An illustrative set of tasks and initial questions that they might trigger for the organisation is provided below. These questions are not just intended to be things for the organisations to discuss. Instead, they can form the basis for detailed costing considerations. For example, what are the costs associated with achieving and maintaining a good understanding of the range of additional data sources available in the market and what are the costs associated with evaluating these alternate data providers?

Task	Opening questions for organisational conversations about widening the happy path
Identifying and evaluating new data sources	What new data sources are available? Might they result in more individuals being on an identity happy path? If they don't, do they achieve similar outcomes for a lower cost enabling additional investment in other activities that can widen the happy path?
Procuring new data sources	What volume of transactions is likely to use the new data sources? Might these new data sources be useful for existing happy path individuals? What is the cost of this volume of transactions from the new data source?
Updating existing processes and systems	What are the costs of change for integrating new data sources into business as usual? Is it time to consider the organisation's technical architecture to make it more easily extensible?
Designing an optimal user experience	How can identity standards be implemented to provide an inclusive user experience? Is it possible for the happy path to incorporate additional steps to minimise the individuals who are identity excluded?
Dealing with late registration	How can the identity excluded resolve their issues with minimal inconvenience in terms of time and cost?
Addressing risk of fraud	How are biometric authentication mechanisms implemented in an inclusive manner? How might device checking automatically flag potentially fraudulent transactions?
Monitoring inclusion performance	How might data analytics spot issues with particular user groups or with the usage of particular data sources?
Understanding the challenge building inclusive processes	Are budgets for awareness and education, intuitive interfaces, etc. appropriately costed?
Responding to user issues	How much support is provided to individuals who find themselves on the unhappy path?
Offering assisted digital options	What forms of support are available for assisted digital user journeys?

09

RECOMMENDATIONS FOR THE ID CODE OF CONDUCT



The study asked four questions of participants in relation to how their organisations frame the economic value, growth and investment opportunities of addressing identity exclusion: What are the different ways in which identity organisations currently frame identity exclusion? What kinds of activities are involved in addressing identity exclusion? In what ways are technological developments and alternative approaches transforming the nature of the challenge of identity exclusion? What additional insights on how to address identity exclusion can be obtained from the study participants?

Each of the recommendations is described in more detail below.

The report ends by returning to the voices of the study participants who articulate the key challenges that identity exclusion raises for the identity industry, the state and for regulators.

Recommendations

- ✓ Resolve to make addressing identity exclusion an explicit objective of the organisation
- ✓ Reform identity proofing standards
- ✓ Review alternative support opportunities that can assist with identity exclusion
- ✓ Restructure birth and death registration processes to be more inclusive
- ✓ Rectify issues that arise because of the history of the identity organisation
- ✓ Respond to the opportunities that new technological developments offer
- ✓ Revise workflows to address the costs of change
- ✓ Realign with evolving consumer attitudes to identity exclusion
- ✓ Recognise all the hidden work associated with making identity inclusive
- ✓ Reuse insights from existing approaches to inclusion from other sectors

9.1

Resolve to make addressing identity exclusion an explicit objective of the organisation

Although the significance and consequences of identity exclusion were appreciated by study participants, it is not always the case that this understanding is shared by organisations as a whole. Making the issue of addressing identity exclusion an explicit objective of the organisation can help develop this shared understanding and enable organisational members to reflect on how their actions and behaviours may be resulting in unintended and possibly undesired cases of identity exclusion.

Doing so often needs time, space and suitable resources to enable conversations about organisational objectives to be properly informed. The insights from this report can help with this activity.

For some identity organisations, the objective might emphasise certain age, gender or ethnic groups. Others may focus on making their organisation more inclusive in terms of (dis)ability and literacy issues, including those individuals who may be more proficient in their first language than their second language. Some identity organisations might place particular emphasis on being more inclusive for thin file individuals, foreign nationals or refugees, stateless and internally displaced people.

It is also important to recognise issues of intersectionality, whereby multiple issues of identity exclusion make the experience for some individuals far worse than for others.

For organisations that haven't identified specific consequences that need to be addressed, a useful first objective might be to acknowledge that not everyone starts from the same place in the identity journal and that the objective should be to ensure everyone ends up in the same (good) place even if their identity journeys vary.

In many cases, the objective can be linked to existing organisational goals (e.g. improving financial inclusion and financial well-being, widening the customer base, addressing known gaps in the market). Some organisations may want to consider presenting the issue as a positive narrative for inclusion as a default rather than seeing exclusion as something to be responded to.

If identity exclusion is not a widely understood concept it may be necessary to develop appropriate terminology and language for the context of the organisation.

Making addressing identity exclusion an explicit objective of the organisation will increase the likelihood of developing key performance indicators around the objective, both for internal monitoring and potentially for external reporting, i.e. counting what matters. In the process of making this an explicit objective of the organisation it is important to acknowledge that identity inclusion is unlikely to have simple answers.

9.2

Reform identity proofing standards

Standards play an important role in making identity proofing as interoperable as possible and this can be particularly helpful for ensuring that the outcome of the identity proofing journey for identity excluded individuals positions them in the same place, with the same opportunities, as those who are not excluded in the same way. These standards are therefore intended to open up alternative routes to particular levels of identity proofing, perhaps to address the data known about individuals with thin credit files.

It is important to reflect on the extent to which identity proofing standards are the best solution for creating an assured identity and whether they, in fact, risk perpetuating cases of identity exclusion. Whilst government issued photo identity documents such as passports and driving licences can simplify the identity proofing process considerably, those who don't have such documents can find themselves increasingly excluded, paying a time and effort tax to reach the same outcomes as those in possession of such documents.

Identity proofing standards relate to the nature of the evidence considered during the identity proofing process. They say very little about the user experience and, indeed, some elements of the standards may run counter to good customer experience. For example, whilst knowledge-based questions might help individuals without regular identity documents, they might also be more stressful and difficult to answer and may risk being less inclusive than intended if incorrect answers are immediately seen as a likely fraud risk.

A further issue relates to the binary nature of most identity proofing standards. Either the individual presents evidence that allows their identity to be proofed to a particular level of assurance or they don't. There is a tension here between the operational simplicity associated with having a small number of clear categories and more nuanced, risk-based approaches that allow relying parties to decide how best to respond to the outcome of the identity proofing. Identity proofing processes that only report a single outcome might inadvertently exclude individuals who cannot obtain higher levels of assurance and who might perpetually find themselves struggling to improve their identity proofing outcomes.

A useful analogy can be made around the standardisation of shoe sizes. Historically, many shoes were made based on personal shoe lasts. Such bespoke services meant that the resulting shoes perfectly fitted the (wealthy) individuals who ordered them. 1927 saw the development of the Brannock Device foot measuring device (The Brannock Device Company 2025) which is the standard foot measuring tool for the world's footwear industry.

Now, instead of each shoe being individually fitted to an individual's specific foot size and shape, the device categorises feet into a smaller number of full and half sizes which can then be used to design shoes.

The consumer shoe industry therefore produces shoes to a limited number of sizes (as measured by the device) rather than making each shoe to the precise foot shape of the individual customer. This balance between the bespoke and the standardised has important implications for the cost base of inclusive footwear.

Most identity proofing standards use a far smaller number of standard options (for example, low, substantial and high for eIDAS 2.0 (European Commission 2025b)) and whilst an adult shoe size 10 might be fine to walk in for someone whose feet are just over size 9½, an individual with an identity that can't be proofed to level high might struggle to find many useful services that can operate on identities proofed to level substantial.

9.3

Review alternative support opportunities that can assist with identity exclusion

Study participants raised a range of alternative support opportunities beyond the traditional in person and help desk approaches adopted by many organisations. For example, charities can provide specialist support to guide the identity excluded through various government processes to enable them to obtain high quality identity products.

Whilst many see a strong argument for the government being an identity provider of last resort for the identity excluded and the state covering the costs associated with dealing with these complex cases, there is also acknowledgement of the limits on the public purse to support such activities, even if the societal benefits of greater inclusivity and reduced fraud can be significant.

Another approach raised by participants can be seen in for-profit social enterprises who may be paid by the state to both support individuals in accessing public services and other financial opportunities and who can also provide on-the-ground support for individuals trying to resolve issues arising from interacting with the state.

Whilst neither approach is ideal and risks being constrained by external factors (e.g. public funding might be limited for helping refugees or stateless individuals obtain identity documents in their host country, support for charitable activities can be affected by the overall state of the economy and for-profit social enterprises may be considered an anathema by some).

Innovations in the forms of assisted digital are becoming increasingly significant, whether this might involve partnerships with brands who maintain an extensive in-person footprint or even white labelling services for them. Moreover, new forms of remote support, ranging from chatbots to interactive live video are now increasingly viable options.

Another alternative proposed by some participants involves vouching for the identity claims about a particular individual. Depending on the circumstances, this vouching might be undertaken by individuals in trusting pastoral care roles, such as schoolteachers and community leaders. Vouching can also be combined with community outreach opportunities.

9.4

Restructure birth and death registration processes to be more inclusive

The existence of sustainable development goal 16.9 has led to increased emphasis on improving birth registration processes, even if the COVID-19 pandemic did introduce a noticeable gap in civil registration activities when the most extreme versions of social distancing were in place. There are also risks associated with registering those young people, born before the renewed emphasis on birth registration, whose life events are not recorded properly.

Participants suggested a number of sensible steps that can reduce the exclusionary effects in these circumstances. There is scope to prepare for the birth registration (e.g. in terms of checking parents have the appropriate documentation) when the mother first engages with the health care sector rather than just at the time of birth. Any issues relating to missing documents can then be resolved at a less busy time. Similarly, community health workers who have engaged with the mother during the pregnancy could officially notify the civil registration processes of the birth rather than simply record details of the birth for the CRVS system to then process.

Similar restructuring can be considered for late registration processes which are typically more time consuming, costly and subject to societal norms and distortions (e.g. there may be more willingness to undertake a late registration of a son than a daughter). Restructuring can also help with death registration processes that help ensure that the data in the civil registry clearly delineates living and dead individuals.

It may also be necessary to restructure the associated processes and workflows if it turns out that there is better data quality or data coverage from alternative sources, such as private medical health providers. A suitably restructured process may be prepared to accept data from the private health provider as having equivalent quality as that from an authoritative government source.

9.5

Rectify issues that arise because of the history of the identity organisation

Participants suggested that the size and history of an identity organisation can have significant effects on its ability to address identity exclusion. In particular a number of participants noted that older organisations often grew in size through mergers and acquisitions. Whilst these larger organisations might have the capacity to understand and explore the issues of identity exclusion they are facing, the history of how they grew might also limit their ability to respond effectively.

For example, mergers and acquisitions might mean that no one part of the organisation has a strong sense of what data assets it holds that can help address identity exclusion. Similarly, another outcome might be costly duplication of identity sources whilst other potential data sources are not being used.

Undertaking a full audit of all the data sources that an organisation holds for identity purposes, as well as the ongoing contracts it has with data providers not only addresses key data protection risks but also allows the organisation to return to the position it was in when smaller, whereby it had a good knowledge of what it knew, and didn't know, about its potential customers.



9.6

Respond to the opportunities that new technological developments offer

Whilst it is easy to be swept away by the marketing hype associated with the latest technological developments, the study participants also highlighted important ways in which they were using new technologies to address issues of identity exclusion.

Artificial intelligence, both in the specific forms of machine learning and large language models, can provide significant support for key identity processes. For example, machine learning models are likely to continue to enhance the flagging of potentially fraudulent activities and transactions as well as for biometric template comparison, machine learning can also help address exclusionary issues associated with the capturing of biometrics. For example, it may be possible to flag problems with selfie images before they are sent for comparison to prevent a customer journey that involves unsuitable images being returned to the customer.

Large language models are increasingly being used to simplify the due diligence and quality assurance processes involved when combining different identity data sets and their associated metadata. At the same time, it is important to reflect on any potential biases and exclusionary effects any artificial intelligence systems may introduce.

Data analytics platforms more generally also allow for the ongoing monitoring of systematic forms of identity exclusion as well as modelling of the benefits of including new data sources. Alongside detecting new potential forms of bias when using these new data sources, analytics platforms can also help measure the likely increase in successful identity journeys that might result.

Data analytics tools can also be used to detect fraud through various forms of device checking, such as if an individual suddenly switches to using a different device than normal.

The users of analytics tools often prefer to work with large data sources containing lots of historical data but data protection laws may require more proactive data hygiene measures whereby older data needs to be removed.

Developments in biometric capture technologies are also transforming the landscape. Participants highlighted the distinction between using official biometric capture devices for initial registration purposes (often comparing biometrics with those held by authoritative sources) and using consumer devices for authentication purposes, such as to confirm particular transactions.

Consumer device based biometric authentication is an increasingly popular alternative to the use of one time passcodes sent to mobile devices, particularly in environments where calls and messages to a device are likely to be suspected as spam if they don't come via messaging apps.

An increasingly important issue raised by participants relates to determining the performance levels of biometric devices. With limited standards in this space, organisations wishing to procure biometric devices and services may find themselves having to rely on performance claims from vendors. There is considerable scope and utility from a range of independent bodies who will be able to certify the performance of various biometric products against agreed standards in a similar way to which conformity assessment more generally can be undertaken (ISO 2012).

The move to contactless payments, particularly since the pandemic, is resulting in a move towards tap and go scenarios for identity authentication activities and there are a number of ways of achieving this functionality in ways which endeavour to minimise the risks to the consumer whilst also simplifying the customer experience.

9.7

Revise workflows to address the costs of change

A significant concern raised by many participants related to the costs of change associated with any steps to offer a more inclusive identity experience. All change involves costs and this may simply be an articulation of inertia from the organisation. It is also important to recognise that designing more inclusive identity processes is unlikely to be straightforward, that it will require specialist (and hence rare) skills that need to take a whole system and socio-technical approach to the problem and that it will be affected by the data architecture of the organisation.

For this reason, a number of participants talked about outsourcing these challenges to intermediary organisations who would act as orchestration providers for them. That is, the orchestration service would offer a single entry point for the organisation, for example, providing an identity proofing score for a particular set of customer details.

The orchestration service would be responsible for identifying new data sources to improve the service they offered as well as dealing with messyware issues (Ganesan 1999) like due diligence, paying for data sources used, combining data sources, etc. They also offer the possibility of clean technical architectures that can more easily be integrated with the organisation's existing systems and processes.

9.8

Realign with evolving consumer attitudes to identity exclusion

There is growing recognition that consumer attitudes to a range of issues, including the factors that often drive identity exclusion, can become significant factors for the reputation of the organisation. Realigning organisational processes to better reflect evolving social norms and expectations will become increasingly important.

Whereas previously adding friction to customer journey to reduce the risk of fraud might have resulted in certain individuals dropping out of the identity journey, the perception that this was not just driven by commercial risk decisions but also by unthinking attitudes to questions of ethnicity, (dis)ability, literacy etc. or a suspicion that decisions not to be more inclusive are being driven by consideration of the financial bottom line might become result in significant reputational harm for the organisation.

9.9

Recognise all the hidden work associated with making identity inclusive

Although identity inclusion is often presented in the form of traditional cost benefit analyses, participants were asked about the various forms of hidden work that their organisations undertook in supporting people who were not on the identity happy path. These activities are typically not properly accounted for in the cost benefit analyses organisations use when considering the option to become more inclusive.

This hidden work takes many forms, for example, a number of participants emphasised the large number of meetings (and meeting participants) involved in making decisions, for example, to include new data sources to improve identity proofing processes. The opportunity cost of all the participants involved in preparing for and attending these meetings can be significant, particularly if the decision is complex or contentious.

Although identity initiatives might have an associated training budget there is often a lot of additional hidden work associated with supporting all staff so that they are comfortable with the new ways of working and the new pathways that are being offered for individuals.

Similarly, although suggestions like making the interface intuitive and offering multiple forms of support (text, video, etc.) are easy to make, in practice they too involve a lot of hidden work in order to be successful. In particular, they may require considerable effort up front to ensure that the requirements for these new services have been captured correctly.

Whilst standard and automated paths can increasingly become commoditised goods and services (e.g. there are now a number of firms offering systems for capturing biographical and biometric data from the chip in an e-passport), when non-standard paths are involved, it can be very difficult to estimate the effort required to check an unusual document or authoritative data source.

9.10

Reuse insights from existing approaches to inclusion from other sectors

Although not explicitly raised by participants, a number of existing approaches to inclusion can be found in closely related sectors and it makes sense to build on their experiences.

The first of these relates to the notion, implicit in many contributions, of the tendency for identity organisations to focus on the 80% of individuals who will be on the happy path for identity transactions first, leaving the more challenging 20% to be addressed in due course, if ever. Typically, this was presented as addressing the "low hanging fruit" or achieving quick wins. Whilst understandable from a straight business perspective, from a societal perspective this results in those who are already disadvantaged struggling more because systems are not set up for them.

There are parallels here with the financial sector where Fair By Design (2025a) have a vision whereby poor and low income people pay a fair price for essential services and eliminate the poverty premium that they can face. This fairness by design is intended to be achieved through the activity of regulators, changes in social policy, and changes made by business. They promote inclusive design approaches to make sure "all consumers can access the products and services they need. It involves designing out barriers to access that create exclusion, inequality and unfairness in markets" (Fair By Design 2025b) and work with people with lived experience of issues within policy development and decision-making to deliver markets that work for all consumers. This approach explicitly includes guidance for both firms (Fair By Design and Money Advice Trust 2021a) and regulators (Fair By Design and Money Advice Trust 2021b).

Building on this approach, the idea of inclusion by design would seem an appropriate alternative approach to the problem of identity exclusion and echoes a long standing approach in systems development that emphasises designing in desirable features from the start rather than adding them as add-ons later in the process (e.g. Privacy-by-Design (Cavoukian et al. 2010; ENISA 2015) where privacy is the default).

Another insight to reuse comes from the US Community Reinvestment Act. This legislation built on the fact that the State often plays a leading "last resort" role in many aspects of life, yet the entities that are engaged in these spaces do not necessarily recognise their relationship with the State.

The US Community Reinvestment Act (1977) is a piece of legislation for the US financial sector that "requires the Federal Reserve and other federal banking regulators to encourage financial institutions to help meet the credit needs of the communities in which they do business, including low- and moderate-income (LMI) neighbourhoods". The Federal Reserve evaluates how well member banks have helped meet the needs of their communities using one of five evaluation methods tailored to a bank's size or business strategy. For example, large banks are evaluated in terms of lending, investment and service for these neighbourhoods.

Similar legislative approaches could be used to ensure the identity industry is more inclusive.



10

CHALLENGES FOR THE FUTURE



The report began with honest reflections on why more evidence about the challenges of addressing identity exclusion was needed to encourage changes to business practices. The next steps for the *ID Code of Conduct* include a macro-economic study of the impact of identity exclusion and the development of a set of principles based on consultation and design and development workshops and one-to-one interviews with experts.

In anticipation of these important next steps, this report ends with statements from participants about the challenges to the industry, the state and regulators to ensure that identity inclusion becomes embedded in business as usual.

10.1 Challenges to the industry

Although the study participants all work in the identity space, they believe that the industry still needs to address important challenges:

"With anything consumer facing you've got to think outside of that monetization and think big about identity" (P06).

"One of the things that concerns me about this industry at large, is that whilst we develop really great technology, we develop really streamlined and slick ways of doing business, but we do it for a very narrow segment, which I think we've nailed. We know who uses it, we know how they use it. But we don't think about how we do this for a broader segment of society" (P17).

"I've always been in the technology consultancy space but I have a passion for asking: how do we get people more engaged in a positive way, in order to make their lives easier? This should be more than just being a risk mitigation strategy on the part of organisations" (P27).

"On the one hand, inclusion is right at the heart of what we're trying to do, but we are not always practicing what we preach from an identity perspective" (P05).

"I'm interested in what sucks less. If there's something that's easier for people let's embrace it. And if fraud goes down slightly as well, that's an additional advantage" (P07).

"My main frustration with the identity landscape as it exists today is that when people try to engage digitally and then they're denied something important, I believe that they shouldn't be required to solve it themselves. Instead we can solve it for them" (P15).

10.2

Challenge to the state

Participants also raised challenges for the nation state to address, not least because "the Nation State is the identity provider of last resort" (P23).

"Because once they make a stand, then that creates requirements and principles for how this is done and that then creates rollout strategies and educational strategies. But sometimes government has to push industry to do the right thing for consumers to make sure that there is inclusion and not lockout because I don't think they are going to do it on their own" (P17).

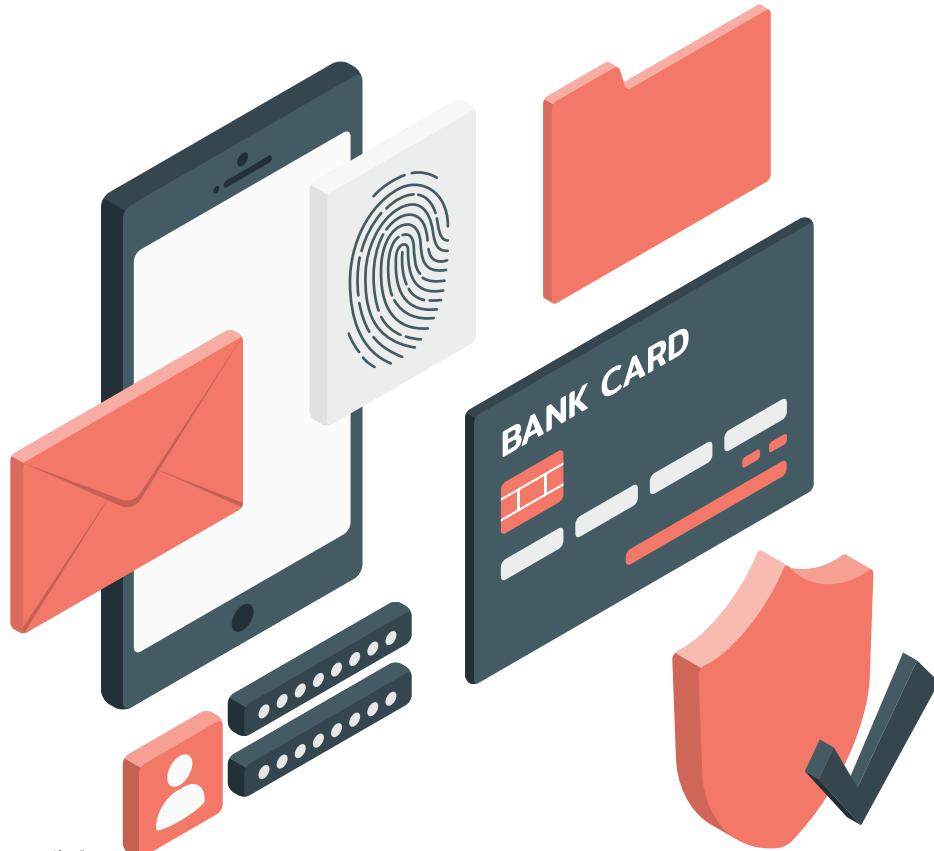
"There has to be an educational and an adoption piece, not just for consumers, but also for the government to get people to accept new forms of identity documents. Additionally, we have to make sure that we've got the technology built around it to ensure that it is a secure identity" (P17).

10.3

Challenge to regulators

Finally, there are important challenges to regulators to ensure that the regulations they introduce don't exacerbate the risk of identity exclusion: "if you have those same technologies being used to exploit individuals, then it just taints the sector more broadly and rightly, pushes regulators to take an unbelievably conservative approach. So we have to balance this regulatory risk-based approach logically with a sheep mentality in a highly regulated environment where regulated entities go. Otherwise firms that may want to explore really good, solid new ways of doing identity but still end up with a regulatory fine may decide not to proceed" (P36).

"Are there elements that regulators have intended to drive enhanced consumer protections, etc., that are inherently good for people? Absolutely. Have there been regulatory efforts or regulation by enforcement that has been an overreach? Absolutely. Has that overreach caused a diminishment or a stifling of innovation and engagement in the space, especially in highly regulated spaces like finance and banking? Absolutely. Can governments enable innovation to thrive that recognizes that not all innovation is inherently risk enhancing and that, in fact, much of this innovation is risk mitigating? Absolutely" (P36).



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12

APPENDIX I

**12.1**
Research methodology

In total, forty-five typically hour-long interviews were undertaken with fifty-one participants working in various roles along the identity supply chain (some interviews had more than one participant). They spoke about identity experiences in sixty-one countries around the world, see Figure 1.

Rather than presenting a mix of attributable and anonymous insights from the interviews, it was decided that codes representing the interview / participants would be used throughout, not least because the participant responses reflected their views as the interviews unfolded and did not necessarily represent their final position on the issues discussed nor necessarily those of their organisations.

In order to present an overview of the participants whilst respecting the anonymity of some participants, the table overleaf provides a high-level breakdown of the participants and their organisations. Some were fintechs, some were payment companies, some were data providers and credit reference agencies. In terms of size, small firms have up to 50 employees, medium sized firms have 50–249 employees and large firms have 250 or more employees. Some of the participants worked at very large firms with over 10000 employees. Just under 40% of the participants were female.

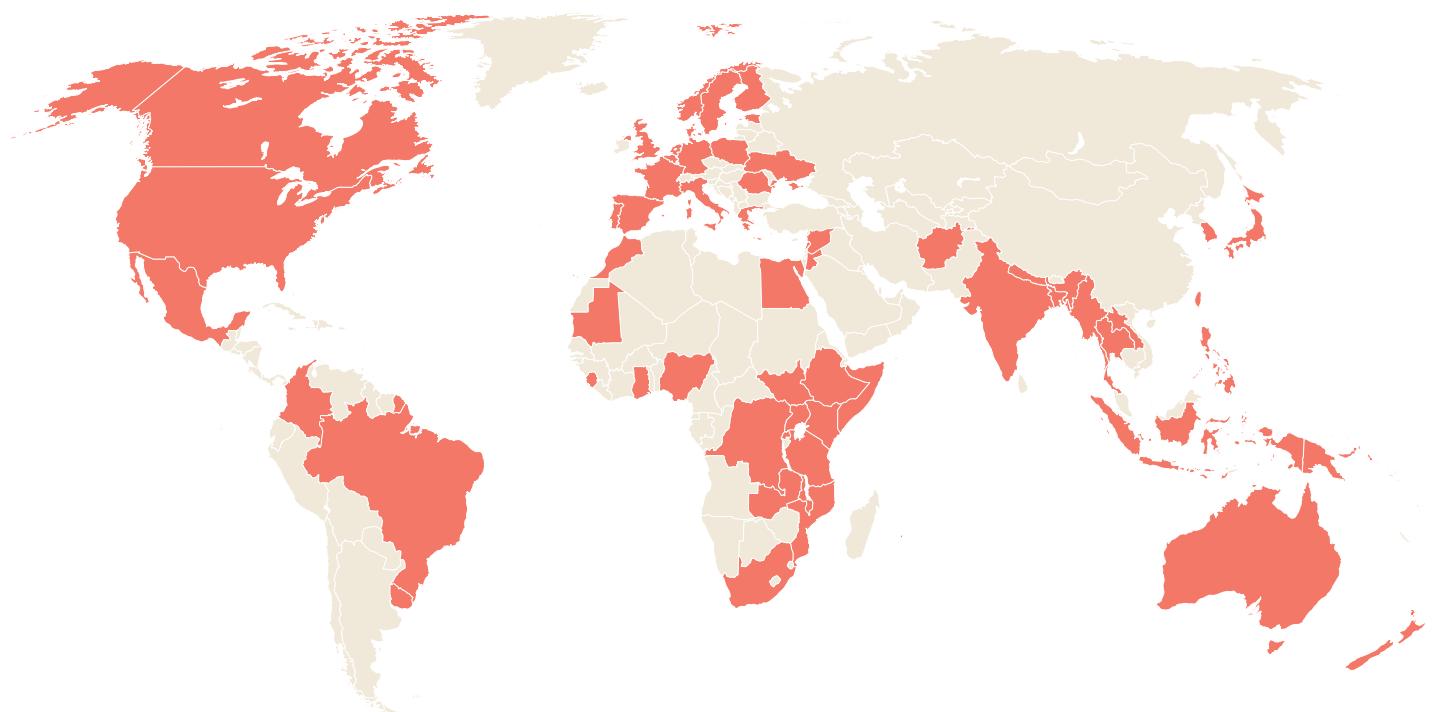


Figure 1
Countries discussed by participants

12.2

Participant profiles

Category	Organisations that were happy to be named (listed alphabetically)	Participant codes (listed numerically)
Data / Identity Services (Small)	Avoco CDD Finclusive Ingenium Biometrics MOSIP	P06, P13, P16, P23, P31, P32, P36
Data / Identity Services (Medium)	Digidentity Enformion Intesi	P11, P24, P35, P38
Data / Identity Services (Large)	IC-Consult ID.ME Haqdarshak Mitek Morgan Franklin Socure Venable Law	P07, P15, P20, P22, P27, P33, P41, P45
Data / Identity Services (Very Large)	Anonymous Anonymous Anonymous Anonymous Anonymous	P01, P03, P12, P25, P29, P34, P37
Independent Consultants	N/A	P02, P14, P17, P21, P30, P42
Intergovernmental Organisations / National Governments / Industry Bodies	Anonymous Anonymous Danish Government ID4Africa EU4Digital UK Government UN UNHCR UNICEF	P04, P09, P18, P19, P26, P28, P39, P40, P44
Relying Party	Anonymous (Large) Anonymous (Large) Amazon (Very Large) KDDI (Large)	P05, P10, P43, P46

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FURTHER READING



This report is a short version of an academic report, where you can read the full findings. In this report we have highlighted the implications and conclusions. To read the full report please download from womeninidentity.org.

This report is part of a programme of research. For information about previous work and the next phases please visit womeninidentity.org.



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